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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,526	12/03/2003	Raymond K. Orr	79115-26 /pw	3203

7590
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CANADA

06/01/2007

EXAMINER

RUTLAND WALLIS, MICHAEL

ART UNIT	PAPER NUMBER
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2836

MAIL DATE	DELIVERY MODE
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06/01/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/725,526	Applicant(s) ORR ET AL.	
	Examiner Michael Rutland-Wallis	Art Unit 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9-11,13-17 and 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-11,13-17 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

In view of the Appeal Brief filed on 1/29/2007, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the voltage sensor

must be shown or the feature canceled from the claims. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency.

Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 9 is objected to because of the following informalities: line 3 contains "supplying at at least one point".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 9, 15, 17 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang et al. (U.S. Pat. No. 6,768,225)

With respect to claims 1, 9 and 15 Chang teaches a distributed power supply arrangement comprising a plurality of power sources (Fig. 1 connected to inputs 101) for supplying power to a plurality of loads (connected to outputs 106) via a power distribution network (shown in Fig. 1), the power sources and the loads being connected to the power distribution network whereby the power sources are coupled to the loads via respective resistances (line resistance) of the power distribution network, the arrangement further comprising at least one voltage sensor (102 or 105) for sensing voltage at least one point in the power distribution network, wherein each of the power sources is responsive (see col. 3 lines 5-10) to the sensed voltage for supplying a regulated current or a regulated power to the power distribution network.

With respect to claims 2, 17 and 19 Chang teaches a plurality of said voltage sensors for sensing voltages at a plurality of points in the power distribution network (see Fig. 1).

Alternatively Claims 1-2, 4-5, 9, 11, 16-17 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Belson et al. (U.S. Pat. No. 6,614,133)

With respect to claim 1 Belson teaches a distributed power supply arrangement comprising a plurality of power sources (Fig. 1 or Fig. 2) for supplying power to a plurality of loads (connected to outputs 208) via a power distribution network (shown in Fig. 1 and 2), the power sources and the loads being connected to the power distribution network whereby the power sources are coupled to the loads via respective resistances (line resistance) of the power distribution network, the arrangement further comprising at least one voltage sensor (col. 3 lines 1-7) for sensing voltage at least one point in the power distribution network, wherein each of the power sources is responsive (such as when the voltage is outside the specified range a command to stand-by is generated see Fig. 3) to the sensed voltage for supplying a regulated current or a regulated power to the power distribution network.

With respect to claims 2, 17 and 19 Belson teaches a plurality of said voltage sensors for sensing voltages at a plurality of points in the power distribution network (i.e. one sensor associated with each load).

With respect to claims 4 and 16 Belson teaches the power sources comprise regulated current sources as the efficiency is monitored and the supplies output controlled according to the measurement.

With respect to claims 5 and 11 Belson teaches the power sources are arranged for supplying regulated currents with different relative weights (any weight within the specified range) to the power distribution network. Belson teaches additional supplies may be added or removed to supply more or less current in order to maximize efficiency see col. 3 lines 30-45 where Belson describes some supplies current output may be below a threshold level.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (U.S. Pat. No. 6,768,225)

With respect to claims 4 and 16 Chang teaches the use of power sources however does not describe the sources as regulated. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Chang to utilize a regulated current source as the source in order to provide steady current to the loads.

Claims 3 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (U.S. Pat. No. 6,768,225) in view of Murabayashi et al. (U.S. Pat. No. 6,856,047)

With respect to claim 3 and 10 Chang teaches the device of claim 1 and 2 but does not teach the sensing of an average of the sensed voltages for supplying said regulated current or regulated power to the power distribution network. Murabayashi teaches a power distribution system wherein voltage sensing is performed using a voltage average (column 8 line 25-40). It would have been obvious to one of ordinary skill in that art at the time of the invention modify Chang to sense an average voltage in order to insure the detection of a voltage abnormality of the supply or system.

Claims 6-7 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (U.S. Pat. No. 6,768,225) in view of Hayward et al. (U.S. Pat. No. 6,317,345)

With respect to claims 6 and 14 Chang teaches the device of claim 1 and 2 but does not teach the power distribution network comprises power and ground planes of a circuit card on which the loads are provided. Hayward teaches plural power circuits and ground plane circuitry. It would have been obvious to one of ordinary skill in that art at the time of the invention modify Chang to implement the system on claim 1 on a circuit card in order to use the system in a backplane arrangement.

With respect to claims 7 Hayward teaches the plurality of power circuits are arranged on the circuit card.

With respect to claim 13 Haywood teaches the supplies may be switch mode power supplies (AC in and DC out). It would have been obvious to one of ordinary skill in the art at the time of the invention to use switch mode power converters in order to provide a DC output to the loads.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Rutland-Wallis whose telephone number is 571-272-5921. The examiner can normally be reached on Monday-Thursday 7:30AM-6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on 571-272-2084. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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